The following listing of Claims will replace all prior versions, and listings,

of claims in the application:

LISTING OF THE CLAIMS:

1 (Currently amended)).   A telecommunications system architecture comprising:

at least one access network;

a mobile host located in said access network;

a backbone network, including at least one application server;

an information gateway, <u>acting as a proxy for different types of information distribution,</u> located in said backbone network; and

<u>an application-layer</u> a throughput estimator residing on said information gateway;

wherein said mobile host communicates with said application server through said

information gateway and said throughput estimator provides information useful in

~~optimizing~~ <u>dynamically adjusting</u> download rate to said mobile host.

2 (Original).   A telecommunications system as set forth in claim 1, wherein said

throughput estimator is selected from the group consisting of an ICMP-based throughput

estimator, a HTTP-based throughput estimator, a TCP trace throughput estimator, and a

SNMP-based throughput estimator.

3 (Original).   A telecommunications system as set forth in claim 1, wherein said

throughput estimator is a passive throughput estimator.

4 (Original).   A telecommunications system as set forth in claim 1, wherein said

throughput estimator is an active throughput estimator.

5 (Currently amended).   A method of optimizing download rate to a mobile host

from an application server in a telecommunications network, said method comprising:

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providing an information gateway between said mobile host and said application server capable of adjusting said download rate;

measuring a throughput rate using the following equation

$R(\tau) = M / \Delta t$, wherein $R(\tau)$ is the measured throughput rate, Δt is ~~the~~ a measurement time interval, τ be ~~the~~ a current measurement time and M is ~~the~~ a number of messages that arrive during the time interval;

calculating an estimated throughput rate for an application flow using the following equation

$$\hat{R}(\tau) = \alpha(\tau) R(\tau) + (1 - \alpha(\tau)) \cdot E[R_{\tau - \Delta t}]$$, wherein the estimated value $E[R_{t-\Delta t}]$ is a weighted average of the current measured value and the average of the last K-1 measured values <u>where K is the index of the current measured value</u>, and weight value $\alpha(\tau)$ is ~~the~~ <u>an</u> average fractional difference between consecutive measurements points;

calculating the difference between said measured throughput rate and said estimated throughput rate and if said difference is less than a predetermined sensitivity parameter, then increasing said download rate through said information gateway by a predetermined incremental amount.

6 (Original).   A method according to claim 5, wherein said predetermined incremental amount is less than said predetermined sensitivity parameter.

7 (Original).   A method according to claim 5, wherein said step of calculating an estimated throughput rate is carried out at said information gateway.

8 (Original).   A method according to claim 5, wherein said step of calculating an estimated throughput rate is carried out at said mobile host.

9 (Original).   A method according to claim 5, wherein said step of calculating the difference is carried out at said information gateway.

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